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From Kelly to Kuhn: an exploratory search for a paradigm in psychology.

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FROM KELLY TO KUHN:

AN EXPLORATORY SEARCH FOR A PARADIGM IN PSYCHOLOGY

A Thesis Presented

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The materialist conception of history starts from the proposition that the production of the means to support human life and, next to production, the exchange of things produced, is the basis of all social structure; that in every society that has appeared in history, the manner in which wealth is distributed and society divided into classes or orders is dependent upon what is produced, how it is produced, and how the products are exchanged. From this point of view the final causes of all social changes and political revolutions are to be sought, not in men's brains, not in man's better insight into external truth and justice, but in changes in the modes of production and exchange.

Frederick Engels
Cited in S. Hook, Marx and the Marxists
p. 160.

C H A P T E R I

THEORETICAL FORMULATION

Introduction

Thomas Kuhn (1962) has put forth the notion that the history and development of science can be conceptualized through an understanding of the emergence and dissolution of paradigms of scientific thought. According to Kuhn, the tools, methods, values, and theories of a science derive from the prevailing paradigm of the time. Furthermore, he argues that certain modes of inquiry, or certain content areas, are deemed legitimate or illegitimate depending upon the governing paradigm.

While Kuhn's thesis has received widespread acceptance as a useful framework for conceptualizing the history of science, his contention that possibly scientific knowledge itself is ephemeral remains a provocative challenge to the fundamental assumption that it is the scientist's work to uncover actual laws of nature.

This rather blasphemous position has been developed even more extensively by Berger and Luckmann (1966). Indeed, they contend that all of what goes under the name of "reality", not only science, is constructed, maintained, and transformed over time through a dialectical social process involving the individual and society. While Kuhn recognizes the importance of the sociology of the scientific community in influencing

the persistence or abandonment of a paradigm, his analysis stops short of directly implicating social factors as determinants of changes in paradigms. Instead, while he sees social factors as important, his primary attribution in the modification of a paradigm lies in the serrendipitous discovery of "anomalies", that is, "actual" findings which undermine the credibility of the existing paradigm.

Whether in science or in the social universe, two notions emerge from Kuhn and Berger and Luckmann. First of all, both works posit the idea that at any given time in history, there are models, themes, or paradigms upon which scientific and social reality are founded. These "constellations of beliefs" (Kuhn, p. 174) or "disciplinary matrices" (Kuhn, p. 182) determine which areas of inquiry are to receive attention and which are to be ignored. In addition, the <u>way</u> attention is directed, and the very interpretations made, derive from the underlying assumptions which comprise the paradigm.

Second, both works make attributions regarding transformations of either paradigm or social reality. As noted above, Kuhn attributes changes in paradigm to real scientific discovery of anomolies, while Berger and Luckmann attribute change to an ongoing dialectical relation in which societal members continually confirm and transform each other and the society through their confirmations.

These differences in attribution between Kuhn and Berger and Luckmann point only to a difference in values. Kuhn will

not go so far as to deny "reality." Berger and Luckmann, on the other hand, will not locate the dialectical process they elucidate in a material context. For purposes of comparison, it should be noted that a Marxist position would understand the dialectical relations between underlying social or scientific paradigms, their objectification and reification as "reality", and their continual transformation over time, in a context which situates this entire process in an economic system which reproduces and transforms itself in concert with the development of capitalism. Assuming this position, one could argue that a prevailing paradigm, and the socially constructed reality that is associated with it, are themselves to be understood as reflections of an economic moment in history. A notable change in paradigm, then, can potentially be related to economic developments. Or, the kind of transformations Berger and Luckmann describe can be viewed as mediated by or located in an advancing capitalist society.

In arriving at this point, we have made a number of assumptions which need clarification. First, we have assumed the plausibility of Kuhn's argument that in a science, there exist belief systems, or disciplinary matrices, or paradigms, which govern the work in the field and which are transformed as anomalies present themselves. Second, we have further assumed Berger and Luckmann's assertion that on a more general societal level, reality is essentially a social construction emanating from an ongoing, historical interactional process.

Third, if we now assume a Marxist viewpoint, we find that there is no essential difference between scientific paradigms and socially constructed realities, in that both are themselves situated in and reflections of a capitalist economic system in which all elements of the society serve in the system's reproduction.

One science which is precariously situated at the interface of scientific and social reality is psychology. In fact, it is the job of psychology to "scientifically" construct, measure, and describe social reality. This task becomes even more confounded if we keep in mind the assumption that scientific constructions are themselves socially and perhaps economically determined. From this position, psychology serves to scientifically reify social reality, in that it makes of behavior concretized scientific laws, which are then enacted by individuals.

Given this, were it possible to articulate the "paradigm" in which psychology currently operates, we could then perhaps specify the dimensions on which it constructs and interprets people and their behavior. Rather than accept the findings of psychology as fact, then, we would attempt to uncover the paradigm or disciplinary matrix upon which these "facts" and "findings" are founded. If we could then relate the dimensions of that paradigm to the present social and economic

system, it might become possible to see how the field perpetuates and reproduces that structure.

Undoubtably, this is seemingly a preposterous task. First of all, it is difficult, if not impossible, to ascertain an essentially hypothetical set of beliefs which constitute a paradigm. There exists no obvious methodology for such an endeavor. Second, any obtainable methodology would itself be subject to contamination by its own existence within the paradigm. Indeed, it would be easier to approach this task with the clarity and the distance which an historical perspective affords. Clearly, it becomes impossible to attempt such an effort without acknowledging one's own participation in the subject matter itself, i.e., the paradigm. In admitting this source of "bias", however, we only reflect the paradox of the reality of our involvement in the ongoing construction of our world.

Given all the above caveats, we will attempt, if just for the sake of exploration, to elicit the paradigm of the science whose job it is to scientifically explicate our socially constructed reality. We also undertake this task because it is preferable to tacitly supporting the social and economic structure by generating more "scientific psychological data." Hence we are forced to look at this science, rather than to look through it.

At the outset of such an exploration, it should be noted that our overriding assumption suggests that if we can elicit

information contributing to a discernible paradigm, we will find it to be representative and confirming of the conditions of a highly advanced, technological capitalist system. We expect to find a paradigm consonant with these conditions because we have assumed the premise of psychology's participation in and elaboration of a seemingly objective reality which is continually socially constructed. Such conditions would be reflected in a paradigm which concerns itself with method and technique, rather than substantive content and process.

Kelly's Theory of Personal Constructs and the Rep Test

Fortunately, there exists both a theory and a related methodology in psychology which provides the psychological analog to the social construction or paradigmatic construction of reality. Such an approach comes out of George Kelly's theory of personal constructs (1955).

At the outset, Kelly views the individual as a scientist who, through personal experimentation, constructs dimensions on which his personal and interpersonal world is anticipated and interpreted. Kelly argues that the individual's primary goal as a scientist is to predict and control events. In order to do this, the individual represents his world through patterns or templates (constructs) which differentiate and give meaning to his relationships. These constructs are integrated more comprehensively into what Kelly calls the indi-

vidual's "construct system". These construct systems, then, are composed of an array of potentially integrated dimensions on which the individual organizes and understands events.

Kelly notes that some constructs are widely shared across people, while others are more private and idiosyncratic. Furthermore, he says that constructs and construct systems can be modified as certain dimensions lose their saliency and are superceded by other, perhaps more highly articulated dimensions. These changes can accrue from a psychotherapeutic process in which the individual is encouraged to expand or refine his construct system.

In order to assess the nature and quality of an individual's construct system, it becomes important to have some clinical tool which will elucidate for both client and therapist the dimensions which comprise that system. While the client himself would have difficulty reporting the constructs he uses, and while it would be inaccurate for the therapist to infer another's constructs, Kelly has provided a method for the elicitation of an individual's constructs.

Kelly's Role Construct Repertory Test, or Rep test (Kelly, 1955), has the individual use significant people in his life as stimulus items in order to elicit bi-polar dimensions (constructs) which illustrate the similarity of two of these people and their distinction from a third. In its clinical usage, the interviewer typically asks the client to name between 15 and 24 significant others who are representative of

various elements of the individual's experience, both past and present. Next, a series of "sorts", or sets of three stimulus items, is presented. The client responds with relevant dimensions which distinguish two of the three from the third. The constructs obtained from these sorts (usually 15 to 22 sorts) then provide the clinician with a large number of dimensions for deciphering how the client perceives and acts on his world.

Given these data, the clinician looks for qualities other than content which affect the nature of the construct system. For instance, one of the most salient factors differentiating construct systems is their degree of cognitive complexity. Several investigators have attempted to elaborate on the meaning and implications of cognitive complexity. Bieri et al. (1966) have argued that cognitive complexity entails both differentiation (the number of dimensions) and articulation (the extent of discriminations made within a dimension). Harvey, Hunt, and Schroder (1961) note a concrete-abstract dimension as a significant aspect of cognitive complexity. The notion of cognitive complexity as a personality variable and its importance in determining behavior have generated numerous studies (cf. Bonarius, in Maher, 1965).

Aside from cognitive complexity as a quality of construct systems, subsequent research has isolated a host of other factors. For instance, a construct is considered "con-

stellatory" if it fixes the other possible realm membership, as in stereotyping. Or, a construct is called "preemptive" if it restricts its elements exclusively to its own domain (Wiggins, 1973). Hinkle (1965), through the use of his Implications Grid (a variant of the Rep grid), has extensively researched the connections between and among constructs and other dimensions which may be implied. Understanding these factors helps the clinician or researcher to better predict how an individual is processing and acting on his experience.

According to Kelly, then, it is possible to generate from the Rep test data a hierarchically ordered construct system in which subordinate dimensions are subsumed under superordinate ones. Having organized the data in this way, one can then assess aspects of total systems. For example, one can consider the permeability or impermeability, or the tightness or looseness of a system, thereby gaining still more information on the individual's coding of experience. These factors are of importance in determining the likelihood of change and in deciding what factors are malleable and which are not. Consonant with this focus of change, Kelly also notes that each bipolar construct contains an emergent and a submerged pole, that is, a pole that is evident in the person's behavior, and a pole which is not ostensibly represented in the person's repetoire. The submerged pole is seen as indicative of the individual's potential for different action as behavior changes.

The original Rep test itself is too rudimentary to get all the information needed to figure out the relative positions of certain constructs to other constructs. Accordingly, a lot is left to the clinician's interpretation. Nevertheless, a host of variations and expansions on the original test have been made over time. For instance, in order to find the relative importance of different constructs, the individual is asked to check off on a grid form of the test all of the 22 people for whom the emergent pole of each construct is relevant. In this way, one can more accurately infer the "range of convenience", or the applicability, of each construct. Further, Kelly has provided a non-parametric factor analysis in order to more objectively determine the hierarchy of the construct system for each individual.

Clearly, this methodology has a wide range of applicability both in clinical assessment and in personality research. It is a particularly elegant technique in its ability to provide a rather objective but still phenomenological, idiographic measure. It is a method which allows for both qualitative interpretation and quantitative analysis. Furthermore, both the stimulus items and the constructs are generated by the individual, thereby reducing the type of bias inherent in rating forms, and increasing the likelihood of richer and more personal information. In general terms, the Rep test has far-reaching potential for a variety of different interests. Indeed, all that needs to be altered is the

nature of the stimulus items for which one gives dimensions (cf. Bannister and Mair, 1968).

One example illustrating the wide range of potential use is Kelly's Situational Resources Rep Test. In this variation, Kelly uses as stimulus items a representative array of stressful situations. The subject is asked to think of a specific instance in his life which fits the situational category. Written in on a grid form, each situation fills one row on the grid. The columns are composed of the names of a number of significant people in the subject's life. The subject is then asked to indicate to whom he feels he could have gone for help or support. What emerges from each subject's grid is what Kelly calls a "distribution of dependencies" (1955). While this grid form yields information about environmental supports rather than constructs per se, it suggests the flexibility the basic methodology has for research endeavors.

From Kelly to Kuhn

For our purposes we want to amend the Rep test in order to elicit the paradigm of psychology. In order to do this, let us first review the theory of personal constructs in light of our task. While Kelly's theory implies a psychological construction of individual reality, we have noted earlier our interest in uncovering the dimensions of a socially and/or scientifically constructed reality. Kelly gives us a

method for figuring out how the individual makes and uses his constructs. Thus far in the sociology of knowledge and in the philosophy of science, most of the methods available have been historical hindsight and armchair speculation.

Kelly's work is applicable to the problem of psychology's paradigm if we assume the following analogy, that is: that a construct system is to the individual, as a paradigm is to the field. While no one has heretofore developed a methodology which concretizes this analogy, the connections between construct system and paradigms, and between Kelly and Kuhn, have been made (Holland, and Leman, in Bannister, 1970). Also, the view of man as a scientist, a notion central to Kelly's theory, has been seen as potentially useful in studying the field of psychology and in assessing its legitimacy and sophistication as a science.

Shotter (in Bannister, 1970) has made a number of these linkages between Kelly and Kuhn. First, because Kelly views man as a scientist, he makes numerous references to the nature of science itself. According to Shotter, "One can find all but identical views to Kelly's in Kuhn (1962), where he has documented the changing paradigm in the natural sciences, arguing that they were all 'scientific' in their own terms" (p. 223 in Bannister, 1970). In other words, one can apply Kuhn's stage description of the finding of anomalies, the subsequent "revolution" that occurs, and the resulting change in world view, to the growth and change of an individual's

construct system in psychotherapy or in a psychotic break (James, 1975).

Indeed, Shotter notes that Kelly's commentary on science itself is similar to Kuhn's, in that both realize that science does not provide "real" descriptions of "reality" but rather offers schemes for the ordering of experience. These "schemata" make up either the construct system of the individual or the paradigm of the science, depending on the unit of analysis. Kelly's model of man is that of man with a model--Kuhn's model of science is that of scientists with a paradigm. Both are representations or constructions of reality, one being personal and individual, the other impersonal and collective.

Although these connections are fairly obvious, no one has ever extended Kelly's Rep test methodology to look at paradigms. In addition, while the self-reflexivity of Kelly's notion of man as scientist invites one to evaluate the construct system of a science itself (Kelly, 1966, in Bannister, 1970), this work has only been done in an unsystematic and cursory fashion. Bannister (1970), for instance, has proposed a definitional requirement of a science in terms of construct theory and has tried to assess how "scientific" psychology is in these terms. However, while Bannister has tried to apply construct theory to science, he has sought only to determine <u>whether</u> or not psychology is a science. His analysis suggests that because psychology is composed of

so many tiny and unorganized pieces of data, we are currently faced with numerous "psychologies" (cf. Kuhn's preparadigmatic phase), rather than a unified system of thought and research. Although we will return later to Bannister's critique of the state of the field, it should be noted that he too has stopped short of trying to elicit, in a Kellian way, the construct system or paradigm of the field.

Given the novelty of the present modification of Kelly, the proposed research, described below, is designed to be an initial exploration, both of systematically investigating psychology's paradigm, and in extending Kelly's methodology to look at a system of thought that exists <u>across</u> people, rather than within one person. In the section which follows, a methodology for such purposes is described.

C H A P T E R I I

METHODOLOGY

A Revised Rep Test for a Paradigm

The first step in modifying the Rep test for our purposes was to change the stimulus items. The list of representative significant others used in the typical test would be useful if we wanted "subjects", or respondents, to give constructs for important people in their lives. Kelly uses a list of other people, because it is experience and interaction with people that makes up an individual's view of his psychosocial world. In this case, we wanted our psychologist-subjects to generate a list of representative concepts, for it is concepts which make up the psychologist's work in the field as well as his "psychological-scientific view" of things. By "concept" we mean any abstraction or representation of something, or phenomenon, ranging from representing something fairly operational to highly theoretical, which informs the psychologist's work. Indeed, it is the job of the psychologist to create and interact with concepts, which presumably grow out of the paradigm of the field. Hence, the major modification in our paradigm Rep test was the use of "concepts" in place of people.

Parallel to Kelly's administration of the Rep test, our psychologist-subjects were asked to generate a list of representative concepts. What was meant by representative? In

Kelly's Rep test, a representative list of people includes people from different periods in the individual's life (school teacher, first girl/boyfriend), people in different status and role positions to the individual (boss, father, spouse, friend), different idealized types (most intelligent, most ethical), and different emotional feelings and attitudes (like, dislike, respect, trust).

For our purposes, a partially analogous array of representative concepts (see p. 92-93, list of concepts) included: 1) concepts from different periods in psychology's development (concepts 7, 8, 9, 10); 2) concepts which have varying weight in influencing the field (ephemeral/fad versus lasting); 3) concepts with utility for psychologists in their work tasks (concepts 1, 3, 13, 14); 4) concepts that have influenced the personal development of psychologists (concepts 2, 4, 15); 5) some currently used concepts with different saliences (concepts 5, 6); and 6) molar concepts which tap into theoretical orientations (concepts 11, 12). All of these concepts also tapped into degrees of preference for the subjects. In summary, then, the concept list used in this study asked for concepts with different historical value to the field and to the individual psychologist, different utility in various parts of the psychologist's work, and different personal priorities and valences to the individual.

After a list of concepts was obtained from a subject, s/he was then asked to think of bipolar constructs for fif-

teen sorts (triads) from the original list of fifteen concepts (see pp. 95-96). In compiling the sorts to be used in this part, an attempt to provide some rationale was made. Three factors went into this rationale: 1) an attempt was made not to repeat any pairs within the triads--this eventually led to some arbitrariness; 2) an attempt was made not to put together triads in which the split between two similar items and one different item was overly obvious (e.g., like and dislike). This was done so that the constructs obtained would not, as far as possible, be tautological, or repetitious of the concepts, themselves. Indeed, what we wanted was for the subject to work at generating dimensions underlying the concepts, for in so doing, we could tap into the dimensions upon which we construct the field. While the difficulty of this rather abstract task was acknowledged, some initial piloting suggested that it was possible.

Third, some of the sorts had a specific rationale. For instance, sort I put together three concepts at different time periods in the field. Sort II put together personal-historical factors. Sort III compiled three tasks in the psychologist's work. Sort XIII tapped into "influence" in personal life, in working with others, and in the field itself. Many of the sorts contained concepts which could be seen to pull for varying relationships between the field and the individual, between different parts of the field, and between different time periods in the field.

A few issues seemed problematic at this point. First, each subject would have his own list from which he would provide dimensions. How could we then compile data across subjects? The rationale behind consolidating the data across subjects derived from our expectation that there would be similar dimensions underlying the concepts used in the field. (If there were not, and if it were then impossible to compile data across subjects, that, in itself, would be an interesting finding.) Furthermore, in order to elicit the constructs that comprise that paradigm, we wanted to use concepts that were relevant to our subjects. Were we to provide a particular list of concepts, we would have run the risk of subjects' unfamiliarity with the terms. Second, what if one subject's concept for, say, a useful research concept, had been at odds with, or theoretically opposite to, another subject's useful research concept? Again, since we assumed that related dimensions underlie all concepts, we could have possibly found that even the identical construct emerged from seemingly oppositional concepts.

Aside from translating the original Rep test into the form described above, we also modified the Rep grid used by Kelly in order to get further information on each subject (and later across Ss) on the range of convenience of the constructs obtained. In Kelly's grid, the constructs the individual provides are written on the right side of a grid chart, and the emergent and submerged poles of each construct

are indicated. In this format, the rows are made up of constructs and the columns contain the stimulus items. In Kelly's test, those items are people.

	mother	father	sibling	teacher	boss	friend	spouse	Constructs emergent--submergent	
Sort I 1,2,4	+	+		o		*	*	good	bad
Sort II								fat	thin

The subject is asked to put an + in the boxes which indicate the two of the three stimulus items which make up the emergent pole of the construct, and an o in the box which indicates the stimulus item in the sort which make up the submerged pole. Then, the subject is asked to place a star (*) in all the other boxes (representing stimulus items to whom the emergent pole also applies). This determines the range of convenience of the construct. Note that in the example given above, sort I consisted of stimulus items 1, 2, and 4 or mother, father, and teacher. Mother and father were seen as good and teacher as bad. In determining the range of convenience of this construct, we find that it is applicable to

two other people (friend, spouse).

This grid form was used in the present study, but subjects wrote down their concepts in place of people. In similar fashion to Kelly, Ss put stars where the emergent pole they generated was relevant. (See grid form of booklet, p. 97).

Evaluation of This Approach and Methodology

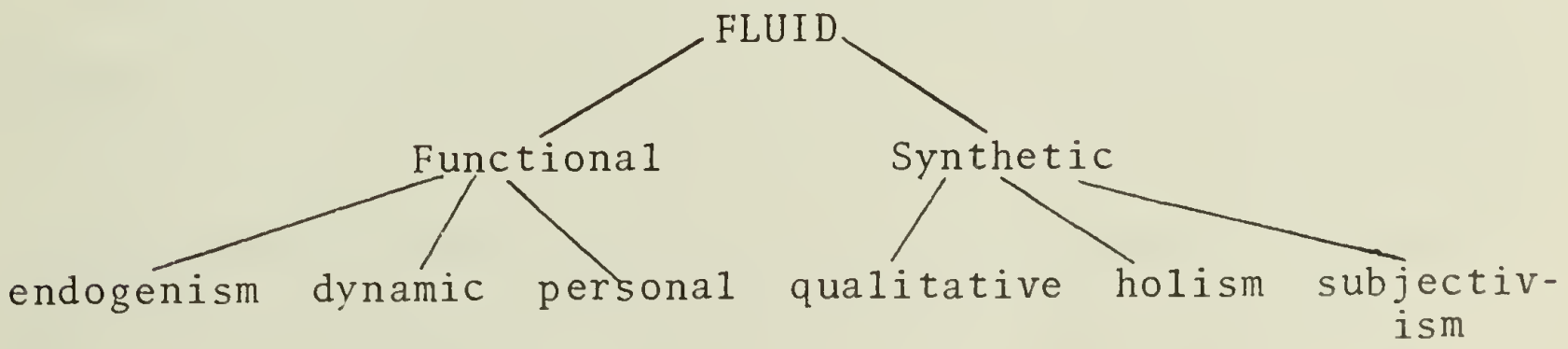
Although Kelly (1966, in Bannister, 1970) and Bannister (1970) see construct theory as a potential tool for evaluating psychology as a science and as a system of thought, the theory and method has not been concretized into anything like the approach outlined above. While the extension of Kelly's theory and method was an experiment in itself, it only represented one way of getting at the paradigm in psychology. Another approach to this problem is presented in order to assess the advantages and disadvantages of the present study.

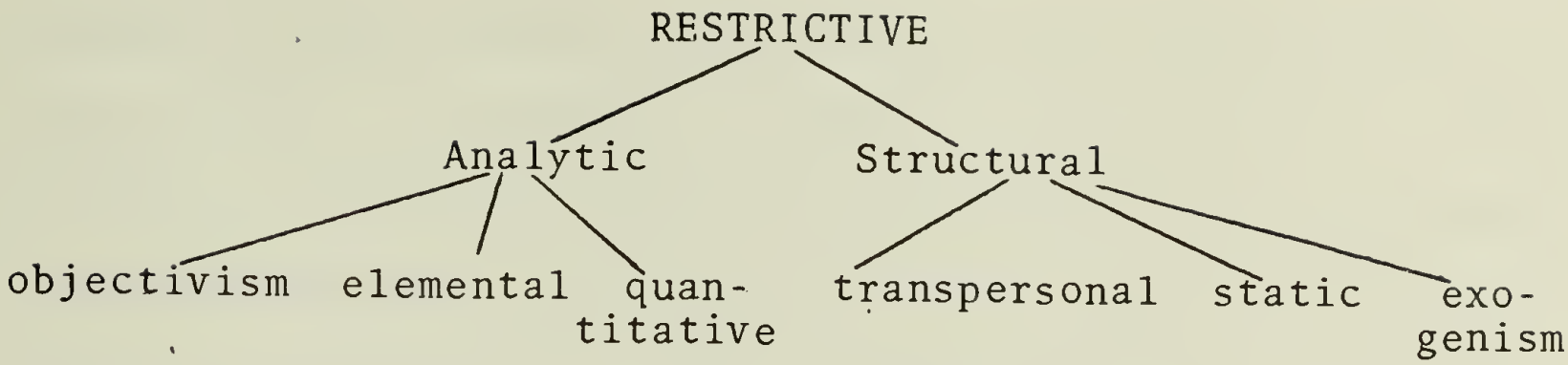
In an extensive effort to uncover basic trends in psychological theory both over time and at any given point in time, Coan (1968) undertook a quantitative, multivariate design in which 54 psychological theorists on 34 variables covered important variables of psychological theory. The 54 theorists had been drawn from an original list of 142 theorists and had been selected from earlier research which determined the rated importance of their contributions to psychological theory (Coan & Zagona, 1962). The 34 variables

were derived from four general categories said by Coan to comprise psychological theory: content emphasis (topic), methodological emphasis, basic assumptions, and mode of conceptualization. Subjects rated the applicability of these 34 variables to 54 theorists on a scale from -2 to +2. Factor analytic work done on a basic score matrix of 54 X 34 yielded six factors:

1) subjectivistic vs. objectivistic
2) holistic vs. elementaristic
3) transpersonal vs. personal
4) quantitative vs. qualitative
5) dynamic vs. static
6) endogenist vs. exogenist

These six factors were intercorrelated and an analysis of their correlations yielded two factors at a second stratum. These two higher order dimensions were: synthetic vs. analytic and functional vs. restrictive. Beyond that, Coan posits a relationship between the division of theorists along this dimension and the temperament of the theorist. The dimensions of psychological theory he constructs are reported below:





Coan also notes historical trends from 1880-1960. His findings indicate an increasing shift from subjectivist to objectivist, from qualitative to quantitative, from endogenist to exogenist. Further, he reports cyclical patterns on the holist-elementarist dimension which go from elementarist to holist (in the 1920's) back to elementarist. The personal-transpersonal dimension also changes in cycles, according to his data.

Coan's work is clearly relevant to the present study. His methodology is more calsified and objective, which is both to his advantage and disadvantage. What he finds from his data, he has gleaned from a statistical analysis of ratings and hence (according to contemporary notions of what constitutes science), he can make his conclusions with a definitiveness which the present study may lack.

Nevertheless, in light of the present study, there is much to critique in Coan's research. First of all, he makes no mention of the relationship of his statistical methodology either to the historical period in which he works or to the way it biases, modifies, and constructs the dimension he finds. Second, he makes no connection between the historical

changes he finds and the social and economic developments of those periods. It would be so easy to infer from his results the ways in which the theories in the field mirror an increasingly dehumanized, technological culture--but he eschews making such inferences. In this way, his work has no roots and no critical function and is reducable to mere tautology.

Third, his study is suspect in terms of the unexplained way he picks the 34 obviously crucial variables which Ss later apply to theorists. In fact, the very variables he picks determine the dimensions which emerge. From an experimental point of view, it is a bit presumptuous to provide variables which supposedly make up psychological theory and to then argue that the study has discovered or produced dimensions. The dimensions he reports are mere summary statements of the 34 variables he chooses.

Whatever the present study sacrificed in terms of "objective statistical" findings it has hopefully compensated for with its more open-ended methodology. For in revising Kelly's Rep test, we allowed the subject to generate both the dimensions and the stimulus items. In this way, stimulus items were relevant to each subject. Second, this study has asserted an ideological position and has come out of a particular framework, rather than appearing out of nowhere and avoiding those issues. Since those issues inhere in any inquiry, it is perhaps more honest to state them squarely. Hence, if the current work is not "scientifically accurate",

it is at least ideologically honest.

Methodology for This Study

Having created a new test, and having provided a rationale for both the stimulus items and the sorts to be used, let us outline more specifically to whom the test was given and the administration of the test.

The test was administered to a total of 32 respondents. The total sample included 10 females and 22 males, with only three women in the non-clinical groups. Subjects were all psychologists in the "soft", "person-oriented" areas of psychology: clinical, social, personality, organizational, educational. This choice was somewhat arbitrary, due to the exploratory nature of the study, and somewhat because these areas all deal with related aspects of people and behavior. The 32 participants were composed of four sub-groups of eight each--clinical faculty; upper-level clinical graduate students; non-clinical faculty; and non-clinical upper-level graduate students. We chose upper-level graduate students (third and fourth year) because the difficulty of the task mandated a familiarity with the concepts and the field which beginning students might not have had. While it might have been interesting to have compared constructs from different groups of Ss based on number of years in the field (e.g., faculty vs. undergraduates), it was beyond the scope of this study to test for all level differences.

Administration

The test was administered individually to each psychologist-subject. Administration consisted of eight parts:

1) A general overview of the purpose of the study was given. Without going into the theoretical and ideological framework from which this study emerges, the task of trying to elicit a "paradigm" for soft psychology was explained and discussed with subjects.

2) Kelly's construct theory and Rep test was explained. The transformations made to provide a Rep test for our purposes was then discussed, and a rationale given for the use of the stimulus items (concepts).

3) Each subject was asked to give fifteen different concepts based on the list in the test. The term "concept" was defined for Ss. "Concept" was used in this Rep test to include any abstract term, or any level of abstraction, ranging from a specific operational term to a hypothetical term to a global theory of behavior. Examples were not given so as not to bias the concepts given by Ss. However, any questions raised were answered and discussed. The fifteen concepts offered were written down on page 1 (list of concepts sheet) of the booklet.

4) Each subject was then asked to supply bipolar dimensions which indicated a way in which two of the three concepts (for each of fifteen sorts) were alike and different from the third. In administering this part, the interviewer

asked the subject to indicate which two concepts were being grouped together (emergent pole) with which pole of the construct. The responses were written down on page four of Ss' booklet (cf. booklet), which showed the sorting of the triads and the constructs. Constructs could be repeated if desired.

5) Each subject filled in the revised grid form (page 5 of the booklet). The fifteen concepts S used were written into the columns of the grid, and the constructs (emergent and submerged poles indicated) were written on the right making up fifteen rows. Down the far left side, the fifteen sorts were indicated. Ss were instructed to place a * in the boxes under the two concepts used in the emergent pole of the construct, and a "o" under the box of the one concept which made up the submerged pole. This was done for all fifteen sorts.

6) Ss were asked to place a star (*) in all other concept boxes to which the fifteen emergent poles applied or were relevant. It was explained that this was done in order to find a range of convenience for the individual's constructs.

7) After the grid was completed, the task part was over. A few personal data were noted: years in the field, areas in psychology, sex, if S has had clinical training and is not in clinical area, and where the individual saw him/herself within his/her area.

8) Finally, there was time for two-way feedback. Sub-

jects were asked to report any thoughts or feelings about doing the task, and the interviewer answered any questions. Ss' comments were noted by the interviewer for a qualitative report about the task itself. Personal data about the subject and the subject's feedback were written on the final sheet of the booklet.

Statement of Goals

In summarizing the investigative inquiry outlined in the preceding pages, perhaps a formal statement of "goals" and "expectations" is in order. We say goals and expectations instead of "hypotheses" because of the exploratory nature of this study. Indeed, the purpose of an "experiment" is to try something out, to see what will result if something novel is attempted. The present work has been an experiment in this basic sense and has remained open-ended because of it.

One major goal of this research, however, was to begin to elicit, in as coherent a fashion as possible, given a speculative methodology, the paradigm of person-oriented or soft psychology. Within this goal, there was one central expectation, namely, that *if* we found a paradigm, its dimensions would reflect a conception and construction of people that is in concert with an increasingly technological society in which people are dehumanized, interchangeable, and fragmented. In line with this, we anticipated a paradigm centered around issues of method and technique rather than content.

In more operational terms, issues of methodology would be expressed in constructs like "testable-untestable", or "empirical-hypothetical". A preponderance of constructs like these would support the expectation noted here.

Some people might not even consider these dimensions worthy of being called a paradigm. Indeed, in Bannister's assessment (1970), or indictment, of psychology as a science, he argues that the field is so fragmented that there are no core constructs on which the field builds. Instead, the field is only concerned with generating "numberless experimental studies which are devoted to one or another type of short term payoff and which are asking questions of such a nature that it does not matter one iota what the experimental answer turns out to be" (p. 54). Finally, Bannister concludes that psychology is not a science but a technology. In critiquing the field's research, he writes, ". . .such as applied criterion of the purpose of prediction and question asking is essentially what discriminates a technology from a science. A technology does not need to concern itself with the question of the elaboration of its own conceptual framework, it can substitute for this requirement of a science any immediate socioeconomic return. A reflection of this attitude appears in the emphasis placed in teaching research on techniques rather than on issues" (p. 54). <u>It is precisely to these issues that this research has been directed</u>.

There were another set of expectations if some coherence

of constructs were found. First, we expected that faculty constructs would be more embedded in and representative of this technologically and methodologically-based paradigm than students'. This expectation came from Kuhn's notion that younger members of a discipline are less socialized into and confined by the prevailing paradigm. This expectation was qualified, however, since the paradigm of psychology is not removed from the larger culture but rather, as stated earlier, extends into and mirrors the culture's approach to people. Hence, we might have found that younger students, while not totally socialized into the field, may have picked up the same constructs and values simply by being members of the larger culture. In addition, we might have expected differences in constructs between clinicians and non-clinicians. Again, this may have reflected Bannister's and Adams-Webber's (1970) sense of the fragmentation of the field and the existence of what Bannister calls "psychologies" rather than an integrated psychology.

Another central goal of this research was to explore the feasibility of extending Kelly's Rep test for use in getting a cognitive consensus across people. Also in this study, we tried to see if Kelly's methodology could be usefully extended to a higher level of abstraction, that is, if subjects could generate constructs for intangible concepts rather than for actual people. This requires an abstract ability which we expected psychologists to be capable of.

Finally, we were interested in showing the extent to which the field of psychology constructs a social reality based on conceptions of people which reinforce and reproduce the social and economic structure in which it occurs. It is out of this philosophical and ideological framework that these research questions emerged in the first place. It is in this context that our findings have meaning.

C H A P T E R I I I

DATA COLLECTION AND RESULTS

Data Collection Process

This is an exploratory study, focused largely on conceptual development. It required participants to develop rather complex distinctions and judgments based on their personal frames of reference. Similarly, the collection and analysis of these data, as will be described, entailed a highly interpretive and interactive process. Given this character of the study, it becomes somewhat more important than usual for the reader to know the process by which the data were obtained, organized and interpreted. As a result, the following discussion includes some statement of my phenomenological experience in collecting the data, as well as the more public aspects of that process. Hence, the following section describes this interactional process of administering the Rep tests and of then deciding how to best make sense of them.

While I closely followed the task procedures outlined earlier, test administration turned out to be considerably more tedious than I had anticipated. Almost immediately, I cut down the size of my total sample from 40 to 32. Each encounter with each participant took from one and a half to two hours. What was most crucial for me in this process was to figure out how each person was conceptualizing and working

with the stimulus items, and to help them draw out their constructs if necessary. This was a highly abstract process for me, in that I had to think about possible dimensions for every sort, for each subject. This was important to do because most people found the task unusual and had trouble thinking of bipolar dimensions which distinguished psychology concepts.

Each respondent was required to do two related tasks. First s/he was to generate a list of fifteen concepts which the person uses or sees used in the field. Even this part, which I had expected to be relatively uncomplicated, was difficult for people. Subjects indicated that they were bothered by not being able to repeat concepts. The second task, supplying bipolar constructs which sorted sets of three concepts, was even more laborious. Moving to this "meta" level of abstraction was difficult for almost everyone. People were not accustomed to comparing unrelated concepts in psychology. Often respondents could generate only a few dimensions and then just stuck with those. Others expressed a need not to repeat constructs and instead produced a series of constructs which were basically synonymous. Subjects who produced more varied constructs indicated that they enjoyed the task, found it challenging, and thought the study was interesting.

Many of the faculty and a few students offered explanations of their construct systems, especially when they used

only a few constructs. For instance, one faculty said that he was bothered by the "narrowness" of his constructs, but that this was due to his having used behavioral concepts. These, he said, were like "blinders" but were designed that way for a purpose. The constructs, then, based on the restrictive concepts, were even narrower. Another respondent, a student, also noted the restricted focus of concern in his constructs. He felt that this did not reflect a narrow focus of the field itself, but rather reflected his narrow involvement in the field. To quote, "There is a narrow range of constructs which govern my scientific behavior." In short, relatively limited construct systems seemed troublesome to respondents and seemed to call for explanation.

Other people commented on problems in the logic of the task. One subject said that comparing the concepts was like comparing "apples, oranges, and tomatoes." Another respondent said that this was like comparing "apples and fruit." Finally, a third person said that it was like comparing "apples and doorknobs." In any event, all these point to the highly abstract nature of the task and to the unusualness of comparing and contrasting concepts in the field. One faculty, who enjoyed the task, felt that the meaning of the concepts changed in the different triads and that this was interesting to him. Others, who appeared to have more trouble with the task, suggested that it was contrived because of the forced comparisions required.

There were apparent relationships between subjects' being able to produce constructs relatively easily and both enjoying the task and perceiving the constructs as accurate reflections of their thinking. One faculty, who felt this way, thought the test was accurate enough that the coherence of construct systems could predict research productivity. On the other hand, there seemed to be a correspondence between more limited construct systems and feelings that the test was limiting and not reflective of respondents' thinking. One faculty commented on the high threat level in confronting one's own dimensions and their limitations. Most subjects, however, seemed to attribute a paucity of constructs to the task, the concepts, or the study itself. In sum, participants had a variety of reactions to the task. These reactions seemed to be related in important ways to the kinds of constructs they produced and to their feelings about participating in the study. To some extent, these responses influenced my approach to analyzing the data.

Analyzability of the Data

In keeping with the variation of Kelly's Rep test employed in the study, I had anticipated being able to work with the data in a similar fashion to the procedure Kelly used in the original Rep test. Ideally, I thought it would be possible to compile constructs across subjects and to then treat these combined constructs as if they came from one con-

glomerate protocol. Given this assumption, I expected to be able to systematically analyze different segments of the total data. For instance, I had hoped to be able to compile students' constructs for each of the fifteen sorts and to then compare the conglomerate construct system to a similar one comprised of faculty's constructs. The same thing was to be done between the clinicians and the non-clinicians in the sample. However, once the data were arranged in this manner, what emerged was an unintegrated set of bipolar dimensions. Compiled in this way, most of the contextual meaning of individual constructs was lost. Hence, this approach to the data was abandoned.

Another plan I had envisioned was to look at all 480 constructs together. The total number was to be cut down, as there would be repetitions of constructs. However, what became clear in looking at the data in this way was that the same dimension had a different shade of meaning and played a different role within its own context, that is, in the construct system whence it came. Hence, while it was possible to glean valuable information on the types of constructs, from looking at the total sample, this did not help in the construction of a consensual construct system, or paradigm.

A third plan was to look at differences in the kinds of dimensions between "sorts." With some intentionality, sorts had been arranged to tap into various differences in the field. For instance, I was interested in the kinds of con-

structs generated from a comparison of concepts which used to be popular in the field to those currently popular. In addition, I was interested in comparisons between research versus applied concepts. However, the dimensions obtained seemed independent of the sort in which they were generated. When the data were ordered in this way, little emerged as suggestive of a way to intelligently proceed in comparing constructs from different sorts. To some extent, the sorts were arbitrary, and evidently this was reflected in the constructs. While I had also hoped that a comparison of concepts for each of the fifteen concepts titles would prove interesting, this too provided little fruitful direction for the analysis.

Another important approach to the data which I had thought would be illuminating was also abandoned. This entailed compiling data, across subjects, based on the "range of convenience" grids filled out by each respondent. As noted earlier, the last part of the actual task for each person involved checking other concepts in his/her list to which the emergent pole of each dimension could be applied. According to Kelly, this is important in determining how widely applicable a construct is in a person's thinking. Thus, this was seen to be a good way of prioritizing and hierarchically ordering constructs in the overall sample.

However, there were several reasons why this did not seem productive once the data were in. First, respondents were both impatient and tired by the time they were asked to

fill out the Rep grid. Because of this, my impression was that the grids were done hastily and were probably not reflective of a careful assessment of a dimension's applicability for a subject. Second, since many constructs were repeated (or synonymous constructs used), it appeared that the salience of a construct could be determined simply by the frequency with which it was used. In fact, in looking at the Rep grids, constructs used only once seemed to have a very limited range of convenience, while constructs used a lot appeared to have wide ranges of convenience. Third, it was not possible to compile a master range of convenience grid across subjects, because the reliability and validity of this notion was ambiguous enough within each protocol, and because the same dimensions had different meanings only <u>within</u> protocols and not between them. Given these judgments, it did not make sense, nor bring the data closer to a consensual construct system, to pursue this course of action.

In experimenting with all the various breakdowns and rearrangements of the data, it seemed that each construct system itself was a total Gestalt or unit and needed to be considered in that way. In attempting to go beyond an understanding of an individual's thinking, then, it would still be necessary to build from an idiographic base. Therefore, it was from such an individualistic perspective that the data were interpreted. Other possibilities undoubtably existed, but this approach seemed to be an appropriate and potentially

fruitful one. Since the approach selected is highly interpretive, a detailed explanation of the procedures adopted in making sense of the data is presented below.

Data Explication: Criteria

Perhaps the most informative way of working with and analyzing the data has stemmed from an individualistic, almost clinical approach to each of the 32 construct systems. This understanding of the data is similar to Kelly's original procedures of how to use Rep tests. In this case, however, the constructs are certainly different than what Kelly would have collected, in that they are substantially more abstract and do not have any tangible referents, as do constructs derived from "role titles." Hence, in making interpretations and drawing conclusions, it behooves us to closely examine the kind of data obtained. An explication of this interpretive process necessitates both close scrutiny of individual construct systems and continual comparison to other Rep tests. This process of comparing and contrasting the productions of different subjects is crucial, for it has been out of this close interaction with the data that common and significant themes have emerged. The inferential process entails pulling apart and then integrating each individual's system as well as comparing two or more systems of thought.

I carried out this analysis with the help of my committee chairperson. Because of the abstract and interactive

nature of the task, it appeared important for someone besides me to stay close to the data to provide comparative judgments. In analyzing the data, it felt like one either had to be almost literally on top of or in the midst of the data, or a good distance away from them. For these reasons, all committee members had an opportunity to look at and "interact" with the data.

This task was difficult for other reasons as well. It appears that it is nearly impossible to hold more than just a few "thought systems" in one's mind simultaneously. This is a very important point in understanding the data and the types of conclusions drawn from them. It is also a serious limitation in this study and possibly in the Rep test itself. Perhaps this is at least a partial explanation of why Kelly's test remains most valuable as an idiographic instrument. Indeed, Wiggins (1973) points out that "the nature of personal construct theory and the procedures of the Rep test make it clear that Kelly considered this assessment approach to be of value in the assessment of individuals, considered <u>one at a time</u>" (p. 494) (underlining mine). Wiggins' point suggests the difficulty one has in holding in mind and juggling more than even one construct system. Nevertheless, the significance of various nuances within one system can <u>only</u> be assessed in relation to others and thus, this is a valuable way to proceed.

Hence, while we acknowledge certain problems in making

sweeping statements from groups of construct systems, simply because this is so difficult to do, it is still elucidating to proceed with a close, detailed examination of several of the individual protocols. This is crucial to do, in that this may be the only way to allow the reader to know and evaluate the process by which interpretations and conclusions were reached. Therefore, what follows below is a dissection of some of the data and of my interactive process with it. The kinds of questions to keep in mind in guiding the exposé focus on the following kinds of issues: how is the individual respondent thinking as a psychologist? What are the salient dimensions which inform his/her thinking? What implications do these dimensions have for how the individual will view, or ignore, important phenomena potentially available to him/her as a psychologist? How is this person's way of construing different from or similar to others in the sample? What do these differences imply about how various psychologists might or might not communicate with each other?

With these questions as an overall guide, we can employ more specific criteria in judging the data. The criteria derive from and focus on <u>two</u> different aspects of the protocols, the <u>content</u> of the constructs themselves and the <u>quality</u> of the constructs and the construct systems as whole Gestalts or units. Because these two sets of criteria are the most coherent and systematic threads we have in making sense of the data, these criteria will be defined in detail

before applying them to the protocols.

In understanding to what the content of the constructs address themselves, I have derived a typology of "kinds of constructs" which I drew from the total sample of 480 constructs. In looking at all the constructs, it appeared that one could classify constructs, albeit loosely, into four types. The four types differentiate the focus or orientation of the constructs. The implications of having a preponderance of one kind of construct as opposed to another will be considered later. At this point, it is important to make these differentiations clear.

The first kind of construct is that which focuses directly on some aspect of people and behavior. Constructs which have this type of focus take some stand on how people function in the world or how the world affects people. These constructs are perhaps closest to some of the philosophical underpinnings of psychology as a discipline. Examples of Type I constructs include: active/passive, inner-directed/other-directed, behavior as modifiable/predetermined, dynamic/static, internal/external control of behavior, person as controller/person as victim, imply dependence/independence, individual as interactive/individual as singular. (All examples come from the protocols.) All these constructs take some theoretical stance on how people and behavior operate.

This type of construct, with its direct focus on people, is to be distinguished from a second kind (Type II), those

which focus on how people and behavior are studied. This type of construct is once-removed, so to speak, from a direct focus on people. Many of these constructs, as could be expected, deal with methodological issues and with the way people are studied. In other words, these constructs deal with whence the concepts came, rather than to what or to whom they are applied. Examples of Type II constructs are: laboratory analog/directly observable, causal model/interactive model, inferred/observed, empirical/theoretical, measurable/not measurable, knowledge-oriented/action-oriented. These types of constructs are almost commentaries on the concepts themselves, rather than on people and behavior. But they are a certain kind of commentary, in that they do provide information on the field and how it views people. Although they are one step removed from direct dimensions about people, they are not so bland or devoid of content that they tell us nothing and could just as well be dimensions of something else besides psychological concepts.

Third type of construct (Type III), of which there were enough in the 480 to comprise a category, are dimensions which are only descriptive of the concepts themselves and are, in a sense, twice-removed from teaching us psychology's views on people. Many of these constructs are simply adjectives which really could be applied to many other things. At best, some of these constructs have evaluative components, indicating some concern by the respondent toward some issue

brought up by the concepts. The evaluative part of these constructs may tell us something about how the field divides up and looks at people and behavior. For instance, examples from this category include: complex/mechanistic, simplistic/complex, reductionistic/holistic, definite/indefinite, scientific/mystical, concrete/abstract, molar/molecular, multidimensional/unidimensional, wide applicability/narrow range, functional/artificial. It can be seen that these constructs are not about people or methodology but rather about concepts themselves. Perhaps the task itself is to blame for the large number of Type III constructs. Perhaps respondents found it so difficult and abstract to compare the content and vantage points of different concepts that they resorted to describing attributes of the concepts themselves.

Finally, a fourth type of dimension (Type IV) in the data consists of those constructs which are nomative in nature, that is, those in which names of sub-areas are substituted for the concepts themselves. For instance, if the three concepts to be compared in a particular sort were "ego", "cognitive dissonance" and "drive theory", the nomative construct given might be "psychological/biological." This construct tells us very little about people, behavior, or the field, except that "psychological" and "biological" are headings of sub-areas or concerns within the field. While they may show how the field is divided up, they provide little information about how the particular psychologist views and in-

terprets concepts in his/her work. These sorts of constructs are merely one level more abstract or generalized than the concepts themselves. Essentially, they are higher-order synonyms. Examples of Type IV constructs include: physiological/social, psychological/biological, content area/viewpoint, investigative tool/substantive content, perceptual/emotional, physical/sociocultural, psychological process/theoretical approach, cognitive/physiological. My subjective impression in administering the Rep tests was that often when a respondent, for whatever reason, did not identify specific dimensions, s/he resorted to giving nomative constructs.[1]

In summary, then, this part of this section has developed a set of criteria which distinguishes various kinds of constructs from each other, based on their focus and orientation. We are still left to enumerate a second set of criteria, those which deal with the quality of the construct systems, considered one at a time.

These sets of criteria are adapted directly from Kelly's analyses of Rep tests. As outlined earlier, these criteria focus on: the cognitive complexity of a construct system, the presence of "constellatory" constructs (as in stereotyping), or of "preemptive" constructs (one construct rules out the presence of certain others). Also, one can look at the "permeability," the "dilation/constriction," or the "tightness/looseness" of constructs, and the "range of convenience" of various constructs. These criteria have been explained in

greater detail above and their application will be illustrated in the presentation of results.

While it is not the purpose of this study to embark on intensive individual analyses of 32 protocols, using all of Kelly's criteria, it does appear that many of his criteria help to guide our understanding and comparison of some of the construct systems. Furthermore, some of his criteria, when applied to these Rep tests, carry implications for how psychologists may communicate with each other. For instance, if we made the judgment that most of the construct systems were highly "impermeable," then we might conclude that psychologists have a hard time talking with one another. If we found that the construct systems were not cognitively complex, this might have implications for the quality of the paradigm in which psychologists operate. However, it must be reiterated that the application of Kelly's criteria is an educated and yet subjective judgment, based on intensive interaction with the data, both with individual protocols separately and with many collectively.

To summarize the criteria on which these judgments are based, there are four construct-types which delineate the focus, orientation, or content of constructs in the sample:

1. constructs which focus directly on some view of people and behavior; Type I; e.g., "internal/external control of behavior."

2. constructs which focus on how people and behavior are studied; Type II; e.g., "lab analog/

directly observable."

3. constructs which are descriptive of the concepts themselves; Type III; e.g., "molar/molecular."

4. constructs which are nomative in nature; Type IV; e.g., "biological/social."

There are seven related criteria provided by Kelly which are useful in assessing the quality of constructs and construct systems:

1. cognitive complexity, defined by Bieri et al. (1961) as involving both "differentiation (number of different dimensions underlying a construct system) and articulation (extent of discriminations made within a dimension)" (in Wiggins, p. 490). Harvey, Hunt, and Schroder (1961) note a concrete/abstract dimension as a significant aspect of cognitive complexity.

2. the degree to which constructs are constellatory: the presence of one construct implies the presence of others, as in stereotyping.

3. the degree to which constructs are preemptive: the presence of one construct preempts the presence of certain others.

4. the degree to which constructs and construct systems are permeable or impermeable: their flexibility in being open to new dimensions.

5. the dilation/constriction of construct systems (related to permeability).

6. the tightness/looseness of construct systems (related to 4 and 5).

7. the range of convenience of various constructs: indicates how widely applicable a construct is to the set of stimulus items.

Data Explication: Case Examples

In applying these criteria, consider the following construct protocols:

CASE I (faculty, clinical)	CASE II (student, clinical)
reductionistic/expansive	isolated/integrated
flexible/rigid	dynamic/static
cognitive/affective	structure and process/pure process
concrete/abstract	cognitive/emotional
complex/simplistic	need for others/self-sufficiency
predictable/unpredictable	simplistic/complex
quantitative/qualitative	interactional/self-perpetuating
structured/unstructured	ascribed characteristics/situational assessment
theoretical/empirical	singular perspective/multiple perspective
other-oriented/self-oriented	relational/intellectual
potentiality/restriction	change-oriented/immutable
closed/open-ended	internally directed/externally directed
cumulative/integrative	simultaneity/evolutional
rational/irrational	single focus/integrated
defined/undefined	intrapsychic/relational

These first two cases show the raw data in the order in which they were obtained. Each bipolar construct was generated from a comparison of three concepts. While the concepts used in each case were different, many of them are similar or related. Nevertheless, two very different profiles emerge.

In looking first at Case I, note that at least seven of the fifteen constructs can be grouped together, or subsumed under one major construct. These include: reductionistic/expansive, closed/open-ended, structured/unstructured, defined/undefined, restriction/potentiality, and perhaps pre-

dictable/unpredictable. All these constructs can be logically subsumed under the heading of restriction/potentiality. Other constructs in the protocol can also be linked. For instance, the dimensions "quantitative/qualitative" and "empirical/theoretical" seemed connected. Also, one could cluster "concrete/abstract" and "simplistic/complex" together. Notice that there are three constructs which are more directly about people: rational/irrational, cognitive/affective, and other-oriented/self-oriented. Finally, there remains the construct "cumulative/integrative" which could be judged as the most cognitively complex and abstract construct in the protocol (see criteria for complexity) and also as one which stands on its own. In applying our criteria, we might conclude that this is not a particularly complex protocol, mainly because there is one overriding constellation of constructs, namely the seven constructs noted above. Parts of this person's system seem permeable in that some constructs are not tightly connected to other constructs, while the constellatory part seems rather tight and impermeable.

Case I is noteworthy in its absence of many Type I constructs. Rather, there is a preponderance of Type II and Type III constructs. However, from this case one can see the difficulty in making definitive categorizations of constructs. What is interesting in this case is that one cannot distinguish between constructs which describe people and those which describe methodology. For instance, the theme of "po-

tentiality/restriction" seems applied to both research and to behavior.

Now consider Case II. The character of this construct system is quite different. While some of the constructs seem related, few can be logically subsumed under others. For instance, even "intrapsychic/relational" and "relational/intellectual" do not refer to the same areas of human experience. Only "isolated/integrated," "singular perspective/multiple perspective" and "single focus/integrated" are similar or convergent. Using the definitions (see criteria above) of cognitive complexity provided by Bieri and by Harvey, Hunt, and Schroder, this is a very complex system. Note also that a majority of the constructs are directly about people and behavior (Type I). This system is seen to be quite permeable, quite ready to absorb and integrate new dimensions. This judgment is made because there is only one minor constellation of constructs and no constructs which might preempt the presence of others.

Now consider two more construct systems.

CASE III (faculty, clinical)	CASE IV (faculty, clinical)
interpretative/stable	qualitative/quantitative
internal/external	uniqueness/normative
externally applied/internally applied	cognitive/behavioral
controlling/uncontrolled	relationship-centered/object-centered
non-specific/specific	holistic/atomistic
verbally mediated/under no controlling influence	time-oriented/present-oriented
global/specific	qualitative/quantitative

systematic/variable
orderly/sporadic
variable system/established system
measureable/not measureable
external/internal control
interpretive/stable
lack of control/control
occurring in interactive fashion/occurring in isolated fashion
predictive/descriptive
theory/practice
content-oriented/structure-oriented
present-oriented/past-oriented
external/internal determinants
motivational/descriptive
holistic/atomistic
change-oriented/understanding-oriented

In Case III, many of the constructs are related to each other. One large constellation consists of: interpretive/stable, variable/systematic, sporadic/orderly, non-specific/specific, not measureable/measureable, and so on. A second cluster (constellation), perhaps really a variant of the first cluster, consists of: uncontrolled/controlled, lack of control/control, under no controlling influence/verbally mediated. A third closely related cluster centers around internal/external control. Only the dimension "interactive/isolated" breaks out of the closely tied constellations. It appears that only a few dimensions are salient for this psychologist: control and order, either internal or external. This is an excellent example of a very tight, constricted, impermeable construct system. In this case, it appears that these factors preempt the incorporation of other kinds of constructs, mainly because of the tightness of the constellations. Again, one should note the lack of clarity as to whether constructs apply to people or methodology. In fact, it would seem here that the focus is so sharp and delineated

that constructs would apply to both areas. Hence, while it is hard to decide if these are Type I or Type II constructs, this lack of differentiation between constructs about people and those about methodology may have interesting implications, paradigmatically speaking.

Case IV presents yet another interesting profile. While this is a fairly well-integrated and organized system (probably more so than Case II), it is still quite complex, compared to Cases I and III. It seems less permeable (despite its complexity) than Case II, in that in Case IV, there almost seem to be boundaries around the person's thinking. Within the system, there is far more room to entertain ideas than in Case III, and yet it still appears more "set in its ways" than Case II. Case IV also illustrates a rather clear integration of both people-oriented and method-oriented dimensions. In this protocol, it appears that the person has more clearly delineated which constructs are research-based (e.g., "qualitative/quantitative") and which are people-based ("past-oriented/present-oriented"). There are also a number of different construct-types in this profile, rather than a preponderance of just one type, as in Case VI. There seems to be a grasp of both an understanding of people and of concepts, and it is possible to sort out dimensions about people from dimensions about concepts. One interesting and somewhat idiosyncratic twist in this protocol is an emphasis on a <u>time</u> dimension. When this is compared to Case I's emphasis on po-

tentiality/restriction, one can observe just how individualistic the protocols are. One should also note that the Rep test is sensitive enough as an instrument to pick up these important differences in thought systems. Hence, Case IV illustrates a cognitively complex system which is somewhat impermeable.

CASE V (student, clinical)

dynamic/static
explanatory/post hoc
focus of cause/effect
focus on understanding/focus on behavior
behavior as modifiable/predetermined
internal influence/external influence
behavior as quantifiable, measureable/qualitative
explanatory/category
non-restrictive (free)/reality constraints
individual focus/across people
interactional/intrapersonal
current focus/historical
internal motivation for behavior/external
public, observable reality/private, unobservable reality
people capable of responding to public reality/people not always capable of responding to public reality

In comparison, Case V shows a rather complex and people-centered construct system, with a special emphasis on the extent to which "reality" constrains behavior. It should be noted that this focus remains people-centered and not methodology-centered. While there are Type II and Type III constructs, much of the focus still remains toward people. The focus in this case is, in a way, related to the focus in Case I on potentiality/restriction and to the focus in Case II to order and control, but in Case V, this theme is closely tied

to an understanding of people. Whatever the similarities, however, the nuances and inuendoes which differentiate construct systems from each other are clearly very important. It should become evident by this point that if more than two systems are compared at one time, the richness of the interplay within a protocol is lost, particularly if the protocols are complex.

Compare Case V to Case VI:

CASE VI (student, non-clinical)

empirical/hypothetical
reductionistic/holistic
methodological/theoretical
specific/ambiguous
deductive/inductive
narrow/broad
reductionistic/holistic
theoretical/methodological
holistic, inductive/reductionistic
empirical/theoretical
reductionistic/holistic
external/internal
realistic/idealistic
specific/broad
objective/subjective

Notice that in Case VI, there is hardly a construct which is definitively about people. Almost all constructs are Type II and III. Clearly, this person viewed the concepts either evaluatively (Type III) or in terms of where they came from (Type II). The difference between the thinking in Case VI compared to Case V is so tremendous, that it would be doubtful that these two people would have much in common in their orientations as psychologists. In Case VI, it is not even

obvious that the person is a psychologist and not a biologist. Case VI is a fairly simple and cohesive construct system with a few highly related constellations of constructs. For instance, reductionistic/holistic is used four times, is similar to narrow/broad, and may be related to specific/broad. Another constellation, which seems related to the first constellation, includes constructs like: empirical/hypothetical, methodological/theoretical, and deductive/inductive. These constellations are good examples of Type II constructs.

CASE VII (student, non-clinical)

internal process of causation/contextual causation
finite variables/infinite number of variables
theory as approximation/theory as explanation
person as controller/person as victim
combinatory process/singular process
holistic/linear
complex/mechanistic
intuition as part of systematic thinking/intuition not part of systematic thinking
hereditary/contextual
behavior as predictable/unpredictable
dynamic/non-dynamic
finite causality/infinite causality (anarchy)
molecular/multiple wholes
linear/nonlinear
simple/complex

Case VII is also a good example of a predominance of Type II constructs, i.e., how people and behavior are studied. In this case, there is a preoccupation with the approach the researcher takes toward his/her work. In interviewing this respondent after the task was completed, he told me that his primary concern was the "presumptuousness" of the researcher.

There are comparatively few (cf., Cases V and IV) constructs directly about people and behavior. Nevertheless, Case VII presents a thoughtful and rich set of constructs. They are highly abstract and show a complicated thought process which informs this person's work. While the emphasis is once removed from people, this constitutes a complex and organized system. This person's cognitive complexity is devoted to thinking about research rather than people. While both Case VII and Case VI are oriented toward how people and behavior are studied (Type II), the constructs in Case VII are themselves more abstract and more varied, thus making the total construct system more cognitively complex than Case VI.

CASE VIII (faculty, non-clinical)

psychological process/theoretical approach
methodological/theoretical
molecular/molar
person-oriented/non-person-oriented
molecular/molar
non-scientific/scientific
non-cognitive/cognitive
psychological/statistical
cognitive/behavioral
theoretical/empirical
behavioral/cognitive
scientific/mystical
theoretical/empirical
cognitive/physiological, behavioral
cognitive, comparative process/non-comparative

Compare Case VII to Case VIII. In Case VIII, there is a preponderance of construct-types II, III, and IV. There are a number of nomative constructs and evaluative-descriptive constructs. Note that there are relatively few dimensions

about people, as compared to Cases II, IV, and V. Again, the focus here is on where the concepts originate (e.g., empirical/hypothetical) rather than on what the concepts imply about people. This is a fairly well-integrated system in that the constructs seem related, but it is neither particularly complex nor permeable.

Nevertheless, complexity must be judged in relation to other protocols. Compared to Case IX, Case VIII is quite complex.

CASE IX (faculty, clinical)

internal/external
idiographic/normative
focus on parts/whole
focus on differences/central tendency
behavior controlled by current environment/past events
internal/external regulation
focus on normal/disordered behavior
idiographic/normative
internal/external control
focus on disordered behavior/ordered behavior
external/internal control
external/internal control
purely environmental regulation/person-environment interaction
behavior controlled by past events/controlled by current environment
external/internal control

Essentially, Case IX has only three constructs: idiographic/normative, internal/external control, and normal/disordered. This illustrates an unusually simple and unsophisticated system. Notice the vast difference between the cognitive complexity of the thinking in Case II compared to Case IX. Hence, using the criteria of complexity, it is interesting to

compare Cases II and IX. Yet, it should be noted that Case II's constructs are almost all Type I constructs, as compared to Cases VI or VII. It becomes increasingly clear, as we proceed in this explication, that it is impossible to compare all the protocols on all criteria. Some criteria are especially prominent in certain protocols and are best illustrated in relation to other protocols which have different foci and different qualities. It also becomes obvious through this analysis that there is tremendous variation within and between protocols.

CASE X (student, non-clinical)

individual as active/passive
theoretical/empirical
theoretical/empirical
theoretical explanation/practical change focus
individual/group
broad/narrow
process-oriented/structure-oriented
theoretical/empirical
specific/general
hypothetical, inferred/observed, measureable
passive/active
individual as trying to predict/individual as trying to understand
methodological/theoretical
particularistic/universalistic

Case X demonstrates a mixture of all the construct-types, with an emphasis on the methodological. Here again there is some blurring between constructs about people and those about how people are to be studied. For instance, while the construct "individual as trying to predict/understand" is clearly about people, it is very similar to other dimensions which

focus on the predictive and theoretical elements in concepts. The implications of this merging of the way one sees people and does research will be discussed later.

Case X also shows the redundancy of many constructs. As noted earlier, respondents were usually reluctant to repeat themselves and hence often gave synonymous constructs. In Case X, the total fifteen constructs can be summarized in just a few constructs: theoretical/empirical, passive/active, specific/general, etc. When constructs are repeated in this way, one can surmise that the cognitive field of the person is heavily influenced by the few constellations. This, in itself, is probably preemptive and must serve to constrict the overall thought system.

CASE XI (faculty, non-clinical)

fixed/plastic
mental structure/personality structure
internal/external
dynamic/static
cognitive (internal events)/behavioral (external)
internal/external
explanatory/descriptive
dynamic/static
external (behavioristic)/internal (cognitive)
dynamic/static
internal/external
explanatory/descriptive
explanatory/descriptive
state (factual events)/trait
explanatory (interpretive)/descriptive

Another example of a limited cognitive field (low complexity) is Case XI. Here again, four or five dimensions can subsume the rest: cognitive/behavioral, internal/external,

dynamic/static, explanatory/descriptive. In this case, the person makes it clear that two salient dimensions are constellatory: cognitive/behavioral and internal/external.

CASE XII (faculty, non-clinical)

multiple focus/single focus
cultural determinants/innate determinants
environmental/intra-individual
implicit bias/empty organism
internal/external focus
global/narrow
collaborative research/subjects (Ss) as objects
dialectical/linear
focus on parts/whole
multidimensional/unidimensional
person in environments/no interaction between individual and environment
acceptance of value and belief systems in Ss/denial of value or belief systems in Ss
interdisciplinary/single frame
physical/sociocultural
atomistic/holistic

Finally, Case XII, like Case VII, focuses to some extent on Type II constructs. There is concern in this case, (cf., Case VII) with how subjects in experiments are treated. There is also an emphasis on how multidimensional the researcher's orientation is. Case XII is complex and rather well-integrated, with a focus on the complexities of studying people. Again, in noting the richness of individual differences, the focus in Case XII on the interdisciplinary perspective, as a part of being multidimensional, is completely different from the focus on "reality constraints" in Case V.

In summary, then, it becomes clear through this presentation that individual differences in one's approach to the

task and in the construct systems generated from it, are enormous and enlightening. These differences also make obvious why the data are depleted of their depth when compiled "across" people. Indeed, the shades of meaning in a protocol are only meaningful within the total Gestalt of the individual profile. Nevertheless, we are able to apply the sets of criteria, in an effort to ferret out the kinds of differences which are present. Some criteria are more pertinent in certain cases, but the criteria are generally useful in making distinctions between protocols and will be especially helpful in making interpretations from the data. The four construct-types, while not always distinguishable, do help in viewing overall areas of concern in the data.

Finally, it should be noted that these twelve profiles were chosen for a variety of reasons. They represent a cross-section of the kinds of data obtained. All four groups of respondents in the sample are represented. Different levels of cognitive complexity are shown, as well as different kinds of construct-types. Some of the cases used were chosen because they are reasonably typical (given individual differences) of parts of the total sample, and some because they are exemplary of the various criteria.

Results: Trends and Themes

In light of the qualitative nature of the data, it would be both reductionistic and inaccurate to report definitive

results. Rather, we can enunciate various trends and themes which stand out from the protocols and the total sample. These trends are interpretative, as opposed to definitive, because the idiographic nature of the data necessarily leads to the presence of exceptions to every statement made and every trend reported.

The lack of definitiveness in the data became even more evident in an attempt to investigate more quantitatively the possibility of discernible differences between various groups of respondents. A sorting task was arranged, in which two people who had been in the study were asked to sort 32 cards with the 32 construct systems into four piles--clinical students, clinical faculty, non-clinical students, non-clinical faculty. Neither respondent was able to distinguish between faculty and students. Both respondents were able to distinguish between clinicians and non-clinicians to some extent. One respondent got 20 out of 32 correctly sorted (62.5%), while the other got 22 out of 32 correct (68%). X^2 goodness-of-fit tests on the two sorters' preformances proved non-significant. Statistical significance would have mandated a performance of 24 out of 32 or 75% correct in sorting.

Despite the inability for respondents to figure out differences between clinicians and non-clinicians, it is possible, using the criteria set forth earlier, to see differences between the various sub-groups. Hence, we will first describe the trends which distinguish groups from each

other and then move to a report of some general trends over almost all respondents.

Between students and faculty, the following trends can be observed. First, faculty constructs tend to contain shorter, more terse phrases to articulate dimensions. Students, on the contrary, often use longer phrases in their constructs. Second, while faculty constructs tend to be less permeable and less cognitively complex and rich than students, they tend to be better organized than students'. Probably the brevity of the words used in dimensions is related to this overall economy in faculty construct systems. Student construct systems, with some exceptions, tend to be more cognitively complex, richer, more permeable, but less well integrated. Student construct systems are considered complex given Harvey, Hunt, and Schroder's notion of a concrete/abstract dimension in complex constructs. Perhaps this is reflected in the longer, more wordy constructs given by students. Bieri's criterion of differentiation (number of dimensions) is also evident in many student cases which are complex. Bieri's criterion of articulation (extent of discriminations made within a dimension) is less obvious in these protocols as a determinant of complexity, although it can be noted to some extent in cognitively complex protocols. Finally, there is no obvious trend in the types of constructs used which help distinguish students from faculty.

Between clinicians and non-clinicians in the sample, the

following trends appear. In general, clinicians employ more Type I constructs, while non-clinicians use more Type II constructs. The general tone of many of the construct systems illustrates or at least suggests these differences. One can find no highly integrated, cognitively complex construct systems which are Type II in focus in the clinical group. The most complex systems among clinicians are heavily Type I in orientation. Likewise, one is hardpressed to find highly complex, Type I-oriented construct systems in the non-clinician group. Hence, when there is complexity in a clinician's protocol, its focus is likely to be directly related to notions about people and behavior. When there is complexity in a non-clinician's construct system, its focus is likely to be on how people and behavior are studied. In addition, it should be noted that there are no discernible differences between groups in the employment of Type III and Type IV constructs.

To some extent, it appears that the first set of criteria (construct types), which deal with the focus of the constructs, helps delineate between clinicians and non-clinicians but not students and faculty, whereas the second set of criteria, from Kelly, which deal with the quality of constructs and construct systems, helps differentiate more between students and faculty. Thus, the overall trends suggest that students show greater complexity and permeability but less organization. Faculty, on the other hand, show tenden-

cies toward fewer constructs which are better organized, often at the expense of both complexity and permeability.

In looking at the total sample, many of the individual differences which enrich the data become muted. However, there are themes in the total sample which emerge through interaction with the data. In pointing out these themes, it may be helpful to again rely on the construct types. Within Type I constructs, the most salient dimension to emerge is "internal/external control of or motivation for behavior." This construct, or variations on it, is the commonest throughout the sample, within this construct-type. Within Type II constructs, the clearest theme about <u>how</u> people and behavior are studied derives from dimensions like "empirical/hypothetical," "inferred/observed" and so on. These dimensions are actually correlates of the internal/external control dimension in Type I constructs, in that they tap into whether research is controlled or uncontrolled, public or private, tangible or intangible, or definitive or ambiguous.

Within the third construct-type (descriptive), a few themes can be noted. These reflect dimensions like "molar/molecular," "global/specific," "holistic/atomistic," "reductionistic/expansive," and "knowledge-oriented/action-oriented" or "theoretical/applied." The first two themes seem related to each other, in that what is molecular might also be reductionistic and what is molar might also be expansive. The last theme noted is a major factor in distinguishing between

clinicians and non-clinicians in general. The distinction between concepts that advance theory and those which have a more practical application seems important in the sample. The fact that many concepts can be contrasted on the basis of this distinction may suggest that there is some mutual exclusivity between applied and theoretical notions in the field. Finally, no particular themes emerge from the fourth construct-type, i.e., nomative dimensions.

In general, though, the themes which emerge center around the degree of control the individual has over his/her behavior and the degree of control the researcher has over his/her research. There seems to be some merging or fusing of these two seemingly interrelated themes, in that it is often hard to know if constructs refer directly to people and behavior or to how people and behavior are to be studied. This relationship, as well as its relationship to themes from construct-type III, will be explored below.

C H A P T E R I V

DISCUSSION AND INTERPRETATION

In interpreting the trends enumerated above, and in discussing the overall implications of this study, the data and the entire research process need to be understood within a number of frameworks. First, we need to evaluate the modification of Kelly's Rep test employed in this research. Second, we need to examine the fruitfulness of this methodology in helping to elucidate psychology's paradigm. Third, we need to interpret the trends reported, given Kuhn's notions of paradigms. In addition, we should compare these findings to the dimensions reported by Coan (1968). Fifth, we must interpret the findings within the broader context of a Marxist slant on the sociology of knowledge. Finally, we need to assess the usefulness of this kind of highly abstract and exploratory research.

In determining the utility of the instrument employed in this study, in helping to shed light on psychology's paradigm, it is first important to point out that the notion of "paradigm" is itself a highly abstract and perhaps intangible concept. According to Kuhn (1962), one can provide words which reflect the paradigm, but essentially, the operational components of paradigms are to be found in the kind of equipment and methodology used or through the "anomalies" which disturb paradigms. Kuhn would probably agree that it is dif-

ficult to ask scientists to articulate their paradigm, except in retrospect. Of course, the methodology used here was an attempt to go into people's thinking through a kind of back door, so to speak, by asking for their constructs. This was hopefully a reasonable choice of method for this problem, given the abstract and the "taken-for-granted" nature of paradigms.

This approach to uncovering psychology's paradigm provides us with important information on very salient and undoubtably heated issues in the field today. What the study lacks in definitiveness, it compensates for by being interesting and provocative. Perhaps it is a necessary first step in understanding ourselves in this field, to begin to document the concerns which are so apparent in daily interaction with psychologists. Hence, in elucidating critical dimensions, even if these findings come from an interpretative and not "conclusive" process, we are still in a better position to evaluate ourselves and our work.

As an initial step in this process, we need to evaluate the modification of Kellian theory and method employed here. From the research process described above, we must conclude that the Rep test is indeed an idiographic tool. The bipolar constructs are most readily understood within their own contexts. Even though the same words may be used by different people, the ways in which one construct is related to another depends upon its position within its total Gestalt. This

critical factor unfortunately limited some of the highly nomothetic analyses intended in the study. It also makes dubious that the assumption that "what a construct system is to an individual, a paradigm is to the field" is anything more than hypothetically plausible. Indeed, not only is the whole not equal to the sum of its parts, but its parts cannot be summed or multiplied or divided in any reasonable way. Nevertheless, the individual explication and eventual integrative process did provide a lot of rich information. It should also be noted that while Kelly and his followers never tried to consolidate constructs <u>across</u> people, they have engaged in a process analogous to what was done here. In other words, while Kellians only evaluate one Rep test at a time, they have looked at various similarities and differences between different diagnostic groups, different age groups, and the like. Approaching Rep tests in this way is complicated because they are essentially individual measures, and yet revealing because characteristics can only be seen through this comparative process.

In further evaluating the method, it is necessary again to comment on the abstractness of the task. The variation of Kelly used here was so abstract that even the stimulus items were abstractions. This meant that the constructs were abstractions on abstractions, or meta-concepts. However challenging intellectually, there are drawbacks to collecting and making sense of data of this nature. While it is unclear

that paradigmatic notions could be investigated more simply, the abstruse nature of this technique leaves something to be desired. The problems in the logic of comparing concepts, which several respondents articulately pointed out, also detract from the advisability of this approach.

Kelly's method is both tempting and misleading in certain ways. The technique is so economical in the discrete sort of data generated, that many variations of the original Rep test present themselves as possibilities in research. Indeed, it is inviting to consider the many kinds of construct systems one could design for different purposes. The simple elegance of substituting any set of stimulus items and then supplying dimensions is appealing. However, it appears that people have a hard time articulating constructs which guide their thinking. Also, the constructs obtained may only make sense within the very narrow set of stimulus items. Having used this instrument, my impression is that the Rep test looks more applicable to a variety of problems than it really is. This instance suggests that the Rep test loses both reliability and validity when its original purpose is changed and when it is extended across people. Of course, given the abstract nature of this study, it is unclear what other method might have been used to supplement the Rep test. In another study, it would seem advisable to use the Rep test in conjunction with other measures.

Given both the shortcomings and richness of the method

used here, let us now interpret the trends and themes reported within the frameworks set forth at the outset of the project. Within Kuhn's framework, the trends reported might suggest that psychology is either pre-paradigmatic or is in a crisis state. This interpretation is made because of the high number of Type II constructs. Kuhn might argue that the preoccupation with how people and behavior are studied indicates the beginning of a paradigm shift. Indeed, there is ample evidence, beyond this study, that this may be the case. Elms (1975) writes of a kind of identity or paradigmatic crisis within social psychology. The data in this study, which suggest that more non-clinicians (mainly social psychologists) are preoccupied with Type II constructs, are consistent with Elms' contention. Buss (1975) also notes that the field has been inundated with articles devoted to the "self-reflection" ongoing in the field today. Hence, the finding of many Type II constructs may illustrate the beginnings of a major reorganization of psychology's paradigm.

Other related trends can be explained within both Kuhn's and Kelly's frameworks. For instance, the narrowness of people's construct systems may be indicative of a profound fragmentation in the field. One Kellian researcher, Adams-Webber (in Bannister, 1970), describes this fragmentation as entailing constructs which are overdifferentiated but not integrated. This was evident in several of the individual construct systems and perhaps in the sample as a whole. The

highly idiosyncratic dimensions often provided may imply a fragmentation within the field as well as within some individuals. Adams-Webber sees this leading to "potential chaos" (schizophrenia, within an individual showing this on the original Rep test) (cf. James, 1975) or what Kuhn would call the breakdown of a paradigm. The overall lack of cognitive complexity in the protocols may indicate an almost rigid adherence to a few key dimensions. Kuhn also notes that this tends to happen once anomalies have upset a discipline. Of course, it should be pointed out that all these speculations may be artifactual and may simply derive from qualities of the task itself. Nevertheless, assuming the task has some validity, these are logical interpretations to make.

Kuhn's notions can be applied to other trends as well. One important impression is that faculty constructs were shorter, more explicit and more terse, and less permeable than student constructs. Kuhn posits that as scientists become increasingly embedded in their scientific communities and in existing modes of thought, their vantage points and assumptions become more inflexible. This idea was reflected in this study. Socialization into the field seems to lead to rigidification of dimensions in one's work and outlook.

Kuhn notes that a "scientific community consists of men who share a paradigm" (p. 176). Maybe the individualistic and often idiosyncratic nature of the data implies that we are not much of a community. Indeed, the vast differences in

modes of construing show a likely inability for many psychologists to communicate effectively and constructively with each other (cf. Cases V and III above). Kuhn goes on to say that "a paradigm governs. . .not a subject matter, but rather a group of practitioners" (p. 180). If this be the case, then this study addresses itself to the right population. From the trends reported, though, it might be argued that people have rather idiosyncratic, mini-paradigms to govern themselves and yet alienate them from potential colleagues. This contention is consonant with Bannister's (1970) critique that psychology is comprised of many "psychologies" rather than some unified system of thought.

Indeed, while it was possible to glean certain construct-types from the data, there are many combinations and permutations of how these types could be arranged. Either there is a paradigm which individuals internalize or use differently, or there is considerable fragmentation and discord in the way psychologists work. This suggests the existence of a paradigmatic crisis in the field today.

Further, the finding of both highly idiosyncratic constructs, juxtaposed with the finding of common themes (around control) through many of the protocols, seems contradictory. How can a field be simultaneously pre-paradigmatic (highly individualized) and yet have common themes which seem paradigmatic? It is argued here that this apparent paradox unravels if we look at these findings as representing different

levels of meaning within thought systems. The uniformity represented in the theme of "control" is based on a more abstract level of analysis and relies on the interpretive framework of this study.

Given this, it seems that psychology, as a discipline, illustrates either a manifest fragmentation covering a latent uniformity, or a manifest uniformity covering a more basic or latent fragmentation. If it is the case that the field has a manifest fragmentation which covers a more basic uniformity, then it could be said that the field functions pluralistically within a paradigm, or that the existing paradigm is beginning to break down. On the other hand, if the situation is actually that there exists a manifest uniformity which covers a latent or more fundamental fragmentation, then one might argue that psychology is perhaps "pseudoparadigmatic", rather than pre-paradigmatic or paradigmatic. This suggests that in the absence of a set of fundamentally shared meanings, the field constructs a set of shared conventions or "operational definitions" upon which a "reality" about people and behavior is then constructed and developed. A community of scientists could agree on a hypothetical set of definitions, even if absurd, and then proceed as if these definitions represented both a deeper set of shared meanings as well as an accurate reflection of "the real world." Anthropomorphically speaking, the notion of a "pseudoparadigm" is akin to Vaihinger's concept of the "as if" personality (in Szasz, 1961,

p. 245). Perhaps one could posit the analogy that what the notion of "as if" is to the individual personality, the "pseudoparadigm" is to the field.

The salient dimensions found in this study also need to be compared to the previous work in this area. The constructs which stand out in this study are very close to those obtained by Coan (1968) and enumerated earlier in the thesis. Indeed, Coan's central theme of "fluidity/restriction" corresponds to an emphasis in many of the protocols on "potentiality/restriction." While all of his dicotomies emerge in this study, there is a far greater emphasis in this work on what Coan calls the "endogenous/exogenous" dimension. This dimension is a key trend in this study. Nevertheless, Coan's dimensions pretty well cover the common constructs in my total sample. This corroboration of findings is encouraging and lends credibility to the validity of this thesis, especially in light of the qualitative orientation of this work in comparison to Coan's elegant statistical analysis.

However, while Coan's work addresses important dicotomies underlying theorists, there is an absence of focus on the substantive concerns in the field. The present study has focused on content issues and has noted at least one crucial content area in the field today. This trend concerns the focus on issues of "control" found in the Type I constructs in the data. In explaining and interpreting this important

theme, we now move to the Marxist slant on the sociology of knowledge enunciated earlier.

Assuming that these trends are reliable and valid, we need to account for the fact that psychologists have constructs about control at the root of their thinking. It is almost as if the popular social learning theory notion of "locus of control" is itself a meta-concept which comes into play in numerous areas in psychologists' work. We noted earlier that there was often a fusing or merging of Type I and Type II constructs, that is, constructs about people and constructs about how people should be studied. This merging is reflected in the presence of "locus of control" as a salient dimension upon which concepts themselves are designed and understood. In other words, it is popular in the field today to apply locus of control notions to understanding people and behavior, as well as research. From this study, it also seems popular today to <u>invent</u> and organize concepts themselves on the basis of this <u>control</u> construct.

One seemingly appealing explanation of why psychologists have constructs about control at the root of their thinking is that issues of "free-will versus determinism" are fundamental philosophical issues which lie at the basis of the field. And yet, this explanation does not take us very far, simply because many other philosophical dimensions, also deeply rooted in psychology, do not emerge as salient from the data. For instance, issues of whether human beings are

"good or evil" are also fundamental to the philosophical underpinnings of psychology but do not emerge from the data. Thus, there seems to be something current about psychology's focus on control. Indeed, Coan (1962) notes an historical trend in the field over the last eighty years from a focus on endogenous theories to exogenous theories.

Within the sociology of knowledge framework articulated here, we need to understand the preoccupation with control as growing out of our society, as being a kind of "sign of the times." Within the Marxist framework developed here, we need to understand this control focus as in some way exemplifying the portrayal of human beings and their conditions within a highly impersonal, technological, oppressive, capitalist society. Indeed, given the Marxist position, we need to look at the concepts psychologists invent as the products which they produce and distribute to the society. The means by which these products are produced, i.e., the laboratory and so on, should tell us something about the view psychology has of people. These means should also tell us something about the culture and psychology's participation in its perpetuation. Further, the merging of concepts about people and those about how people are studied (the means by which psychology produces ideas) is consonant with the fundamental Marxist notion that the means of production determines modes of relation (Fromm, 1962).

Psychology's preoccupation with issues of control, as

seen in this study, is to be understood as a testimony to people's actual lack of control over both the antecedents and consequences of their behavior. Further, within this light, the focus on control is understood as evidence of our actual alienation. In a classic paper on the meaning of alienation, Melvin Seeman (1959) notes that the commonest definition of alienation is powerlessness. Seeman defines powerlessness as "the expectancy or probability held by the individual that his own behavior cannot determine the occurrence of the outcomes or reinforcements he seeks" (p. 383). Seeman goes on to say that "the use of powerlessness as an expectancy means that this version of alienation is very closely related to the notion (developed by Rotter) of 'internal versus external control of reinforcements'. . . . The congruence in these formulations leaves the way open for the development of a closer bond between the two languages of analysis--that of learning theory and that of alienation" (p. 384-385) (cf. Rotter, Seeman, & Liverant,1962).

Seeman's point is exceedingly important in light of the present analysis.[2] It is contended here that locus of control, as a concept or meta-concept, is not typically related to notions of alienation and is not seen as arising out of an actual state of alienation, because psychology as a discipline is blind to this insight. Psychology is so flagrantly cut off precisely because its products, or concepts, serve to reinforce the dominant structure of the culture and to thus pla-

cate and mystify people. Thus psychology becomes preoccupied with whether the control of behavior is internal or external in lieu of addressing the more basic and real experience of an increasing lack of control. Furthermore, psychologists then do experiments (the breeding place for concepts) in pre-arranged, stultified situations which supposedly simulate a high degree of control, but which then produce and distribute notions to a non-laboratory world in which there is little control.

Within the Marxist context, control and alienation are closely linked, experientially, and hence conceptually. Psychology serves to obscure this connection. As psychologists who function as appendages of the dominant superstructure, we market concepts like "locus of control" (and a host of others with control at their base) in order for people to <u>think</u> themselves in control of their behavior. Behaviorists even fragment behavior into tiny particles in order to insure people's sense of "self-control." Indeed, why would this field have such an obsession with control if not to create and market concepts which facilitate a cultural construction of behavior (a "social construction of reality") in terms of having or not having control?

In another culture, we might find that a salient dimension might deal with the extent to which the individual is in communion with the Almighty. And as psychologists, our task would be to understand and develop the phenomena which help

or hinder this communion process. Such phenomena might tap into concepts such as "sinfulness," "possession by the devil," and so on. We might construct scales to determine the degree of possession by the devil, and we might exhort exorcism as a therapeutic solution.

Yet in our culture, we devote our energies to "locus of control" scales and focus our therapeutic talents toward giving the individual control over him/herself, either through certain reinforcement schedules or insight ("Where id is, ego shall be"). In any event, the field markets control concepts, and it is argued here that this is because people really feel very little control over their own destinies.

Berger and Luckmann point out that in the dialectical process between the individual and the society, social phenomena are all constructions which take their place through related processes of externalization, objectivation, and internalization. Indeed, concepts produced and marketed by psychologists enter into and grow out of these processes. In other words, we supply concepts which are needed by the culture. And then, to quote Berger and Luckmann, "the products act back on the producer" (p. 61). When products are set forth in the culture without recognition of this dialectic, such products become reified. According to Berger and Luckmann, "Reification is the apprehension of human phenomena as if they were things" (p. 89). In other words, we forget that we have "authorship" over our products. Indeed, "even while

apprehending the world in reified terms, man continues to produce it. That is, man is capable paradoxically of producing a reality that denies him" (p. 89) (underlining mine). This is a major interpretation of the trends found in this study which has crucial implications for the field as a whole.

As psychologists, we produce concepts about or based on control, which paradoxically furthers our lack of control. As psychologists, our preoccupation with what is really a pseudo-issue obscures the underlying issue of our alienation, that is, our ever-increasing lack of control. Hypothetically, if psychology were a revolutionary force and were positioned outside of the mainstream culture, it would be dealing with precisely this underlying issue. But psychology is itself an agent which reinforces and perpetuates the status quo in the culture. The interpretations articulated here suggest ways in which psychology unwittingly abets in this perpetuation. Hence, if the content of the field's paradigm is constituted around notions of the control of behavior (or control of experiments), then one can see the paradigm itself as both oppressive and mystifying. As long as we invent and market concepts about control, when the real issue is alienation, we continue in our collusion with other appendages of the dominant culture.

We continue to sell a false bill of goods to the public through our focus on concepts which supposedly give people a

sense of control, rather than those which might address people's sense of alienation and its sources in society, rather than in ourselves. In actuality, people are increasingly cut off from the antecedents of or motivations for their behavior. Rather than acknowledge this, psychology exacerbates this problem in its increasing denial of private, intangible modes of experience which may have a lot to do with the determination of behavior. That which is public and which can be more readily controlled becomes the focus of interest to psychologists. These foci are then marketed as authoritatively-arrived-at concepts, which in turn become reified as real things which constitute experience. As people internalize these reified concepts, which are themselves mystifying, they further their own alienation and mystification.

Clearly, this study does not "prove" the interpretations offered here in any conventional way. Nevertheless, the study does show trends which lend themselves to this type of analysis. If we can accept the interpretations given here, then we have accomplished one of the purposes of the study, namely, to show how psychology serves to reinforce and perpetuate the status quo. We have suggested that an overriding conceptual concern within the field centers around the control of behavior. We have tied this concern to the actual sense of alienation or lack of control in human experience in this society. Finally, we have developed the position that psychology participates in a dialectical process which ob-

scures this actual core of experience.

As a final statement, it is perhaps appropriate to assess the overall usefulness of this kind of highly abstract and exploratory research. Despite a number of problems in administering the Rep tests, in systematically evaluating them, and in eliciting a formal paradigm, it is nevertheless contended here that this has been a valuable process to undertake. Because there are an ever increasing set of doubts in the field about how psychologists should operate, it is very important for research of this type to be done. Consonant with this view, Buss (1975) advocates that a sub-area within psychology, called the "sociology of psychological knowledge", be established to legitimize exactly this sort of self-exploration. Little (1972) advocates self-reflexivity in models of research to increase the congruence between how psychologists see themselves compared to how they see others. Sanford (1970) also advises that careful self-survey is needed in the social sciences in order to gain some independence from the larger political system.

This type of exploratory research is also important as a way of learning to create, develop, and explicate methodologies. This is vital if psychology as a discipline is to not become further alienated, itself, from the means by which it produces ideas, or products. Indeed, our tacit acceptance of various statistical operations serves, within our own domain, to reify what are basically other social constructions.

Therefore, research which views method (means) as being at least as important as findings (ends), is exemplary of a less alienated and potentially more humane approach to knowledge itself. Hopefully, this research has been an effort in that direction.

FOOTNOTES

[1]To make an analogy (which will either further confuse or potentially clarify), let me use Rorschach terminology. The difference between Type I constructs (directly about people) and constructs which are nomative (Type IV), is similar to the difference in Rorschach determinants between M responses and F responses. M responses, like Type I constructs, show a taking-in of the stimuli, an integration of the stimuli with "inner life," either emotional or intellectual, and an ability to articulate these inner workings. Plain or popular F responses, like Type IV constructs, illustrate a lack of inner working. Rather, both are fast, standard responses which show either a lack of depth or a high degree of socialization or perhaps a high degree of defensiveness.

Continuing with this comparison of construct-types to Rorschach determinants, perhaps we can understand the other two construct-types in this way. Type II constructs, those which focus on how people and behavior are studied, contain inner working with the stimuli but are intellectualized and distant, much like a Vista responses on the Rorschach might be. The third type of construct, those which describe qualities or properties of the concepts themselves, without dealing with the implication or meanings of the concepts, are perhaps roughly analogous to Dd responses--accurate and correct but rather uninformative or devoid of real substance.

While these types of constructs, or these types of Rorschach responses, show some indication of the person's dealing with the stimuli, there is still less meaningful production than in an integrated M response.

Perhaps I am drawn to this Rorschach analogy because in both the Rorschach and in this variation of the Rep test, the interpretator needs to employ some system which differentiates and organizes ways that different people approach and relate to sets of unusual stimuli.

[2]Seeman's definition of alienation is not offered as an accurate or exhaustive definition of alienation. A comprehensive exploration of notions of alienation are beyond the scope of the thesis. However, Seeman's view is presented because of its relevance to issues of control which are prevalent in the field of psychology today.

REFERENCES

Adams-Webber, J. R. Actual structure and potential chaos: Relational aspects of progressive variations within a personal construct system. In D. Bannister, Perspectives in personal construct theory. London: Academic Press, 1970, p. 31-46.

Agnew, N. M. & Pyke, S. W. The science game: An introduction to research in the behavioral sciences. Englewood, N.J.: Prentice-Hall, 1969.

Bannister, D. Science through the looking glass. In D. Bannister (Ed.) Perspectives in personal construct theory. London: Academic Press, 1970, p. 47-62.

Bannister, D. & Fransella, F. Inquiring man: The theory of personal constructs. Baltimore: Penguin Books, 1971.

Bannister, D. & Mair, J. M. M. The evaluation of personal constructs. London: Academic Press, 1968.

Berger, P. Invitation to sociology. New York: Doubleday, 1963.

Berger, P. & Luckmann, T. The social construction of reality. New York: Doubleday, 1966.

Bieri, J., Atkins, A. L., Briar, S., Leaman, R. L., Miller, H., & Tripodi, T. Clinical and social judgment: The discrimination of behavioral information. New York: Wiley, 1966.

Bonarius, J. C. J. Research in the personal construct theory

of George A. Kelly: Role construct repertory test and basic theory. In B. A. Maher (Ed.), Progress in experimental personality research, Vol. 2., New York, 1965, 1-46.

Bruner, J. S. You are your constructs, Contemporary Psychology, 1956, 1, 355-358.

Buss, A. R. The emerging field of the sociology of psychological knowledge. American Psychologist, 1975, 30(10), 988-1002.

Coan, R. W. Dimensions of psychological theory. American Psychologist, 1962, 23 , 715-722.

Coan, R. W. Toward a psychological interpretation of psychology. Journal of the History of the Behavioral Sciences, 1973, 9, 313-327.

Coan, R. W. & Zagona, S. V. Contemporary ratings of psychological theorists. Psychological Record, 1962, 12, 315-322.

Cronbach, L. Beyond the two disciplines of scientific psychology. American Psychologist, 1975, 30(2), 116-127.

Elms, A. C. The crisis of confidence in social psychology. American Psychologist, 1975, 30(10), 967-976.

Fromm, E. Beyond the chains of illusion: My encounter with Marx and Freud. New York: Simon and Schuster, 1962.

Hinkle, D. The game of personal constructs. In D. Bannister (Ed.), Perspectives in personal construct theory. London: Academic Press, 1970.

Harvey, O. J., Hunt, D. E., & Schroder, H. M. Conceptual systems and personality organization. New York: Wiley, 1961.

Hook, S. Marx and the Marxists. Princeton, N.J.: Van Nostrand, 1955.

Hudson, L. The cult of the fact. New York: Harper and Row, 1972.

James, C. Paradigms and schizophrenia. Unpublished paper, 1975.

Kelly, G. A. The psychology of personal constructs. Vol. 1. New York: W.W. Norton, 1955.

Kelly, G. A. Behaviour is an experiment. In D. Bannister (Ed.), Perspectives in personal construct theory. London: Academic Press, 1970.

Kelly, G. A. The theory and technique of assessment. In P. R. Fransworth (Ed.), Annual review of psychology. Palo Alto, California: Annual Reviews, 1958, 323-352.

Kelly, G. A. A summary statement of a cognitively-oriented comprehensive theory of behavior. In J. C. Mancuso (Ed.), Readings for a cognitive theory of personality. New York: Holt, Rinehart, and Winston, 1970, p. 27-58.

Kuhn, T. S. The structure of scientific revolutions, Vol. 2. Chicago: The University of Chicago Press, 1970.

Little, B. R. Psychological man as scientist, humanist and specialist. Journal of Experimental Research in Personality, 1972, 6(2), 95-118.

Marcson, S. (Ed.). Automation, alienation, and anomie. New York: Harper and Row, 1970.

Mandler, G. & Kesser, W. The language of psychology. New York: Wiley, 1959.

Pervin, L. A. Personality: Theory, assessment, and research. Second Edition, New York: Wiley, 1975.

Raush, H. L. Research, practice, and accountability. American Psychologist, 1974, 29(9), 678-681.

Rotter, J. B., Seeman, M., & Liverant, S. Internal versus external control of reinforcements: A major variable in behavior theory. In N. F. Washburne (Ed.), Decisions values and groups II. London: Pergamon Press, 1962.

Sanford, N. Whatever happened to action research? Journal of Social Issues, 1970, 26(4), 3-23.

Sechrest, L. Personal constructs and personal characteristics. Journal of Individual Psychology, 1968, 24, 162-166.

Sechrest, L. The psychology of George Kelly. In J. M. Wepman & R. W. Heine (Eds.), Concepts of personality. Chicago: Aldine, 1963.

Seeman, M. On the meaning of alienation. American Sociological Review, 1959, 24, 783-791.

Shapere, D. The structure of scientific revolutions. Philosophical Review, 1963, 383-394.

Shotter, J. Men, the man-makers: George Kelly and the psychology of personal constructs. In D. Bannister (Ed.),

Perspectives in personal construct theory. London: Academic Press, 1970.

Szasz, T. S. The myth of mental illness. New York: Harper and Row, 1961.

Wiggins, J. S. Personality and prediction: Principles of personality assessment. Reading, Mass.: Addison-Wesley, 1973.

APPENDIX

List of Concepts

1. a concept that is useful to you in research you are doing or would like to do: _____
2. a concept that is central to the class you liked best in graduate school: _____
3. a concept that is central to a course you would like to teach: _____
4. a concept that is central to the course you liked least in graduate school: _____
5. a concept that is currently popular (widely used) but which is incompatible with your orientation: _____
6. a concept that is currently popular (widely used) but not relevant or important to your work: _____
7. a concept you feel will become increasingly important and will influence the future direction of the field: _____
8. a concept you think is somewhat of a "fad" but which has no real lasting value: _____
9. a concept that used to be highly regarded years ago but which is not given much credence now: _____
10. a concept you feel has influenced the direction of the field: _____
11. a molar concept (theory) that you think best explains and understands people and their behavior: _____

12. a molar concept (theory) that you think <u>inadequately</u> explains people and their behavior: _____

13. a concept you feel has practical or applied value in creating change in people or systems: _____

14. a concept that describes your methodological orientations: _____

15. a concept that has influenced you personally: _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

List of Sorts

I.	6.	currently popular but irrelevant to your work
	7.	will influence direction of the field
	9.	used to be popular but not given credence now
II.	1.	useful in your research
	4.	worst course in graduate school
	15.	influenced your personally
III.	3.	central to course you would like to teach
	13.	has practical or applied va ue in creating change in people/systems
	14.	describes your methodological orientation
IV.	4.	worst course in graduate school
	8.	"fad" but of no lasting value
	10.	has influenced the direction of the field
V.	7.	will become important and influence field
	8.	"fad" but of no lasting value
	10.	has influenced the direction of the field
VI.	1.	useful in research you do
	6.	currently popular but not relevant to your work
	12.	molar concept which best explains people
VII.	3.	central to a course you want to teach
	10.	concept to worst course you had in graduate school
	11.	molar concept which best explains people
VIII.	2.	central to best course you had in graduate school
	4.	central to worst course you had in graduate school
	14.	concept that describes your method logical orientation
IX.	8.	"fad" but of no lasting value
	9.	used to be highly regarded but not given much credence now
	14.	describes your methodological orientation
X.	2.	central to best course in graduate school
	11.	molar concept that best explains people
	15.	concept that has influenced you personally
XI.	1.	useful in your research
	5.	currently popular but incompatible with your orientation
	14.	describes your methodological orientation

XII.	9.	used to be highly regarded but not given much credence now
	11.	molar concept that best explains people
	12.	molar concept that inadequately explains people
XIII.	7.	will influence direction of the field
	13.	has practical or applied value in creating change in people/systems
	15.	concept that has influenced you personally
XIV.	3.	central to a course you want to teach
	5.	currently popular but incompatible with your orientation
	6.	currently popular but not relevant to your work
XV.	2.	central to best course in graduate school
	5.	currently popular but incompatible with your orientation
	10.	has influenced direction of the field

SORTS

NO.	SORTS	CONCEPTS	CONSTRUCTS
		SIMILAR--------DIFFERENT	EMERGENT-----SUBMERGED
I.	6,7,9	_____:_____	_____-_____
II.	1,4,15	_____:_____	_____-_____
III.	3,13,14	_____:_____	_____-_____
IV.	4,8,12	_____:_____	_____-_____
V.	7,8,10	_____:_____	_____-_____
VI.	1,6,12	_____:_____	_____-_____
VII.	3,10,11	_____:_____	_____-_____
VIII.	2,4,14	_____:_____	_____-_____
IX.	8,9,14	_____:_____	_____-_____
X.	2,11,15	_____:_____	_____-_____
XI.	1,5,14	_____:_____	_____-_____
XII.	9,11,12	_____:_____	_____-_____
XIII.	7,13,15	_____:_____	_____-_____
XIV.	3,5,6	_____:_____	_____-_____
XV.	2,5,10	_____:_____	_____-_____